(1) Maximum incidence:
June 1st to Oct. 21st.....259 or 80%
(2) Sex. Males.....190 or 54%
Females .....159 or 44%
(3) Age. Under 8 years.....277 or 78%
(4) Exposed:
Yes ..... 43 or 12%
No .....227 or 64%
Not recorded..... 84 or 23%
(5) Onset:
Classical .....151 or 43%
Meningeal .....108 or 30%
Not recorded..... 95 or 27%
(6) Paralysis:
Upper extremities..... 61 or 18%
Lower extremities.....132 or 38%
Respiration ..... 68 or 20%
Abortive ..... 41 or 12%
Not recorded..... 42 or 12%
(7) Result:
Paralyzed .....172 or 49%
Dead ..... 129 or 24%
Abortive ..... 51 or 14%
(8) Contacts:
Adults 601
Children 401
Proportion of known secondary cases to contacts.
Adults 1.6%
Children 8%

The proportion of known exposures to known cases in children and adults correspond, however, more closely to the cases reported than these figures would seem to indicate, i. e., 78% of all cases were under 8 years of age: of 43 cases of known exposure, 32 or 77% were children. The greater per cent. of known exposure in children may also be due to the relatively more easily obtained knowledge of contacts. There is a definitely greater percentage of known secondary cases among children shown by the data of all three years. This fact favors assumption of a greater susceptibility to the disease among children.

Total for Three Years.

Total cases reported.....706
Total deaths.....151
Mortality rate..... 21%
Cases available for analysis.....503
(1) Maximum Incidence:
May 1st to Oct. 1st..... 72%
(2) Sex. Males.....276 or 53%
Females .....220 or 44%
Not recorded.....7
(3) Age. Under 8 years.....363 or 72%
(4) Exposure .....49 or 9.7%
(5) Onset:
Meningeal .....154 or 30%
Classical .....239 or 47%
Not recorded.....111
(6) Paralysis:
Upper extremities.....189 or 37%
Lower extremities.....230 or 43%
Respiration ..... 72 or 14%
(7) Result:
Paralyzed ..... 292 or 56%
Dead .....149 or 26%
Abortive ..... 44 or 9%
Not recorded..... 46 or 9%
(8) Contacts:
Adults 736
Children 539
Proportion of known secondary cases to known contacts:
Adults (over 18).....1.3%
Children (under 18).....7.2%

During 1912, there appeared papers,[2 3] reporting successful transmission of poliomyelitis through the agency of the biting fly, *Stomoxys Calcitrans*. Following this, special efforts were made throughout the last few months of the year to record, if possible, the presence or absence of this fly in the immediate neighborhood of individuals ill with poliomyelitis. The majority of these observations were made in the valley of the Sacramento river, a valley of farms and dairies having a large population of domestic animals. In every case it was a matter of comparative ease to find numerous specimens of stomoxys.

CONCLUSIONS.

1. Poliomyelitis is more prevalent in summer but is by no means confined to hot weather, instances of this disease having occurred at all seasons.

2. Children are more apt to contract the disease after known exposure than adults.

3. Exposure could be demonstrated in only one case in ten.

4. The onset is rather more apt to present gastro-intestinal symptoms than meningeal.

5. The spreading of the virus through a community is in the majority of cases untraced. This distribution can be explained only through the assumption of unsuspected carriers, probably human, possibly insect or animal.

In closing, I wish to express my indebtedness to Dr. W. F. Snow, Secretary of the State Board of Health, for access to the records and for constant interest in following up the disease in California.

1 Gundrum, Jour. A. M. Med. Assn., Jan. 27, 1912. Vol. LVIII, pp. 254-55.
2 Rosenau, M. J. XVth International Congress of Hygiene and Demography, September 26th, 1912.
3 Anderson, J. F. Public Health Reports; U. S. P. H. Service; Vol. XXVII, No. 41, p. 1733, Oct. 25th, 1912.

"IMPRESSIONS."*

By H. J. KREUTZMANN, M. D., San Francisco.

The practice of medicine is certainly interesting and fascinating for many reasons; to myself the fact that we in our daily work can make the most interesting scientific observations and researches, has always been especially attractive.

On the other side, no work of any kind taxes and racks the nerves of a person more than the practice of medicine. It is not only the great responsibility of our decisions, often involving life and death, health and happiness, which makes our position difficult; but what has always appealed most to me is the fact that in our daily work we are made not merely witnesses, but active participants, in the greatest tragedies of life. When priest or undertaker steps in, death has done its work, they stand before an accomplished fact; but we physicians are right in the battle line for life; we, if we have any heart at all, cannot entirely escape the anxiety, worry, disappointment and despair so often accompanying the struggle for life.

At times the measure of our endurance becomes full, and then the only thing for us to do is to

*Read before the San Francisco Polyclinic Society, April, 1913.

leave practice and patients alone for a while. I must confess that about a year ago I found myself in such a position. I went away. I could not go near a hospital for quite a while, did not want to see clinics or doctors. We went through Canada, saw Montreal, New York, crossed the Atlantic, saw Paris at the best time of the year, its beautiful surroundings; traveled through Belgium and Holland into Germany. I kept away from hospitals, looked only at things beautiful in nature and art, at the great works of man. In this way I took a refreshing bath, freeing myself of the refuse of daily toil, and gradually the interest in medicine, the desire to see something medical returned to me.

After a few months I began to visit clinics and hospitals; I did not run from one man to another, from one clinic to another; my principle was rather: *non multa, sed multum!* I visited some of the great German gynecologists, personally known to me; remained for weeks at a time at the same place—Berlin, Munich, Frankfurt, Heidelberg; I became acquainted with the assistants, and in daily visits and talks I learned and saw a few things that were quite interesting to me.

What impressed me most in all these interviews, lectures and observations, was the great tendency to conservatism, as practiced and taught by the foremost leaders in gynecology and obstetrics; conservatism as manifested by the application of non-surgical methods of treatment of different affections peculiar to women. Notably in three things this conservatism is conspicuous:

1. In the treatment of inflammatory affections of the uterine appendages;
2. In the application of Roentgen-rays in gynecology;
3. In the treatment of placenta previa.

With the wonderful advancement of surgery under anti- and aseptic measures, gynecology was not lagging behind; occasionally an attempt was made to save some of the affections of female genital organs to non-surgical treatment, but I do not think I misrepresent conditions when I say that as a whole gynecology, and even, in the hands of a few, obstetrics, has become merely an appendix to general surgery.

This is especially true of the inflammatory affections of the Fallopian tubes and the ovaries. Since Lawson Tait let loose his "cut her open," since Beatty and Hegar made an assault upon ovaries, the onslaught upon these organs all over the world for a few decades has been tremendous; and thousands and ten thousands of women lost their organs of reproduction or part of them; some incidentally also their lives. Undoubtedly what we know now about the affections and diseases of these organs—and the knowledge is wonderful—was all gained in consequence of this surgical therapy.

Enough time has now passed, enough cases have been observed, especially as far as later and final effects are concerned; the initial enthusiasm for a new and brilliant method of treatment has subsided, cooler judgment prevails, and the result is that inflammatory affections of tubes and ovaries are more and more taken away from surgical treatment and restored to conservative, non-surgical methods. This is entirely in accordance with the general trend of medicine: inflamed affections of joints, for instance, are not as a matter of routine treated with amputations or resections but with conservative methods. The same prevails with the tubes and ovaries. Every gynecological clinic that I saw is equipped with a regular balneotherapeutic department, to apply water, heat, massage in different forms and ways.

Certainly there remain as yet many cases of inflamed, decayed tubes and ovaries, real pus tubes, adherent adnexa, etc., that have to be operated. But the indiscriminate rush with the knife for those organs, the many silly operations for slight pathologic, almost physiologic changes in the ovaries (small cysts) are condemned. The general state of health, the condition of the nervous system, are carefully looked over and accordingly treated. A better understanding and appreciation of the relation between the affections of generative organs of women and the nervous system exists, and this in turn renders gynecologists careful in recommending and performing operations.

Roentgen-rays are employed at many clinics; the therapy is in the state of development as yet, but undoubtedly it is to remain; the best method of application, its scope and indication are not worked out yet, but free and frequent discussions and papers show the great interest taken in this form of treatment; and it is rather remarkable to hear the most wonderful experts in operative technic talk quite enthusiastically on Roentgen therapy in lieu of operations. Professor Krönig of Freiburg, one of the most accomplished and daring operators, made the rather startling statement that for uterine fibroids Roentgen-rays would replace the knife.

The main indications for Roentgen-rays are so far:

1. So-called idiopathic metrorrhagias.
2. Fibro-myoma of the uterus.

The X-rays work upon the ovaries, destroy their function, a so-called X-ray castration takes place; but besides fibro-myoma of the uterus have been observed to become diminished in size under direct exposure to Roentgen-rays.

Roentgen-ray treatment has proved of excellent advantage in hemorrhages before the climacterium, so untractable oftentimes. Nothing pathologic on uterus or ovaries is found, the curetting does not stop the flooding; sometimes we have to resort to hysterectomy. For these cases, with X-rays the flow can either be diminished (oligomenorrhoea) or entirely stopped (amenorrhea). X-ray treatment is considered *the* treatment for these cases.

Opposition is made to this mode of treatment on the ground that with X-ray becoming of frequent use, many malignancies will be overlooked, or not be operated upon early, when the chances are best for permanent cure through operation. It is considered of absolute necessity that X-ray treat-

ment should be carried on only by an expert gynecologist, in order to minimize as much as possible this danger of overlooking malignancies or other contra-indications. It is argued that it is easier for an accomplished gynecologist to become an expert with Roentgen-rays, than for a Roentgen-ray expert to become an accomplished gynecologist.

The third matter is eclampsia. When we mention the word eclampsia, a long train of theories passes review before our eye. Every new idea, every discovery made in medicine in the last forty years has been utilized to explain the etiology of the eclamptic seizures of the gravid, parturient or puerperal woman. To some extent treatment of eclampsia has been influenced by these theories.

After the merely symptomatic treatment with large doses of narcotics came the short-lived period of sweating the eclamptic under the assumption of eclampsia being uremia with accompanying hydremia; then chloroform was used with fair success. The theory of intoxication of the maternal body through fetal metabolism ushered in the demand to rid the mother at once of the fetus. At first this was attained through obstetric measures; these soon became supplanted by surgical operations. Dührssen's vaginal Cesarian section gave a new record of recoveries, heretofore unattained. The vaginal operation in turn gave way to the abdominal classic Sectio Caesarea.

For a number of years it has been accepted almost without contradiction, that the best method to treat eclampsia parturientium is to empty the uterus at once; if there is sufficient dilatation of the uterus, perform version or apply forceps; if not, cut and get the baby out.

There were a very few who did not believe in this treatment, but they had to "go way back and sit down"—their voices were buried in the noise made by the surgeon-obstetricians. There was, however, a gentleman whom they could not kill: Professor Stroganoff of St. Petersburg, Russia, took even the trouble upon himself to demonstrate his conservative, expectant mode of treatment of eclampsia to some of the leading German obstetricians.

Stroganoff's method consists in: removal of all noise, light, touch from the eclamptic; besides he gives morphia and chloral hydrate alternately and waits for a natural delivery of the child. His statistics are excellent; he gives large numbers of cases, since short series of observations are of no value whatsoever.

Stroganoff found lately, in Professor Zweifel of Leipzig, a champion of his cause; Zweifel is undoubtedly the greatest living authority on eclampsia; Zweifel became doubtful of the surgical treatment for various reasons, chief among them being: 1, that his mortality under improved surgical technic has steadily been growing larger; 2, that he could not accept the theory of fetal metabolism as cause of eclampsia, since eclampsia occurs where the fetus is dead post partum, also it has been observed in cases of vesicular mole.

Zweifel attributes the success of surgical delivery to the loss of blood occurring in these operations; he found through careful analysis that the blood of the eclamptic is not hydremic, but on the contrary concentrated above normal; he has adopted Stroganoff's expectant treatment and has added to it venaesectio. Under this combination he was able to have in a series of 84 consecutive cases, 5.9% mortality. With this combined treatment it has repeatedly been observed that eclamptic seizures during pregnancy ceased, the urine cleared up, gravida went to term and was delivered in a normal labor.

These excellent results cannot be ignored by other clinics; Zweifel's treatment of eclampsia: venaesectio and Stroganoff combined, will certainly be tested.

I thought these observations and impressions might be of interest to you, especially since here in the "wild and woolly West" things are so entirely different. A terrific mania operativa is raging here: everybody "wields the knife"; the practice of medicine appears to have become purely surgery; when a doctor sees a patient, his first and only thought seems to be, What operation can I possibly do in this case?

I wonder how long this remarkable condition of affairs is to last?

STAPHYLOCOCCUS SPRAY FOR DIPHTHERIA CARRIERS.

JEWEL FAY, B. L., Berkeley, Calif.

The idea of treating diphtheria carriers with sprays of staphylococcus aureus originated with Schiotz [1] in 1909. He used the spray upon six carriers and reported complete success. In 1911 Page [2] reported the disappearance of diphtheria bacilli in seven cases after forty-eight to seventy-two hours of treatment. In the same year Catlin, Scott and Day [3] reported the successful use of the spray in eight cases. Further investigation was made in 1912 by Lorentz and Ravenel, [4] who also reported successful results. In these investigations no parallel cases were treated, as controls, by other methods, and serious doubt remained regarding specific antagonism between the staphylococcus aureus and the diphtheria bacillus. Moreover, in 1912 DeWitt [5] carried out a series of experiments upon guinea pigs, and came to the conclusion that there is no antagonism between the staphylococcus aureus and the diphtheria bacillus.

This investigation was undertaken to make a comparison of the values of sprays of staphylococcus aureus culture and of a mild antiseptic solution in the treatment of the noses and throats of diphtheria carriers. An opportunity to treat a series of carriers was afforded through the kindness of Dr. Mark L. Emerson, physician to the State Institution for the Deaf and the Blind in Berkeley. Thanks are also due to Dr. W. A. Sawyer, Director of the State Hygienic Laboratory, and to other members of the laboratory staff for helpful suggestions and access to the records. The bacteriological work was done in the laboratory of the Hygiene Department of the University of California.

The Institution for the Deaf and the Blind at Berkeley underwent a small epidemic of diphtheria